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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,074	04/04/2001	Mingjie Wang	WANG 4	3882
27964	7590	10/20/2004	EXAMINER	
HITT GAINES P.C.			MENBERU, BENIYAM	
P.O. BOX 832570			ART UNIT	PAPER NUMBER
RICHARDSON, TX 75083			2626	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,074

Applicant(s)

WANG, MINGJIE

Examiner

Beniyam Menberu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 4, line 6-7, the phrase "these output errors result poor equalizer performance" is not grammatically correct.

On page 11, line 22, "conFIGUREd" should not have capital letters.

On page 13, lines 7-8, the phrase "of the signal of the signal" should be "of the signal".

On page 13, line 8, "Figure 2A" should be "Figure 2B".

On page 17, line 5, "may then used" should be "may then be used".

On page 17, line 14-15, the "angle determination circuitry" is referred to with 210 when it should be 120.

Appropriate correction is required.

Drawings

The drawings are objected to because on Figure 4, reference item 430 should be labeled "FAX system" in accordance with the specification on page 18, line 1. In addition reference item 420 should be labeled "Telecommunication Circuitry" as defined in the specification on page 17, line 22. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing

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should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 9, 16, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 9, 16, and 23 use the terms "about 90°" which is indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4, 5, 8, 9, 11, 12, 15, 16, 18, 19, 22, 23, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6597725 to Ishii in view of U.S. Patent No. 5251020 to Sugiyama.

Regarding claims 1, 8, 15, 22, Ishii discloses a system and method (column 12, lines 11-13) comprising: a signal receiver that receives a signal containing first and second points located at first and second angles (Figure 1; column 7, lines 63-67; Figure 5a; reference 21,22,23,24; column 10, lines 26-35); and angle determination circuitry that determines an offset angle by which said signal has been rotated based on said first and second angles (Figure 1, reference 8; column 10, lines 44-48).

However, Ishii does not disclose a facsimile receiver and a facsimile machine comprising of image formation circuitry.

Sugiyama discloses a facsimile receiver and a facsimile machine comprising of image formation circuitry (column 2, lines 53-55; lines 58-60; column 6, lines 61-64).

Ishii and Sugiyama are combinable because they are in the similar problem area of data communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the system of Ishii into a facsimile machine to provide for a high quality facsimile receiver.

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The motivation to combine the reference is clear because Sugiyama provides for a facsimile system wherein the teachings of high quality facsimile reception system of Ishii can be implemented.

Regarding claims 2, 9, 16, and 23, Ishii in view of Sugiyama teach all the limitations of claims 1, 8, 15, and 22 respectively. Further Ishii discloses a system and method as recited in claim 1 wherein about 90° separate said first and second angles (Figure 5a, reference 21, 22; column 10, lines 29-32).

Regarding claims 4, 11, 18, and 25, Ishii in view of Sugiyama teach all the limitations of claims 1, 8, 15, and 22 respectively. Further Ishii discloses a system as recited in claim 1 wherein said angle determination circuitry causes said offset angle to equal said first angle when at least 180° separate said first and second angles (Ishii discloses a system wherein the phase offset δ as calculated by the phase angle calculation unit (Figure 1, reference 8) covers all possible phase shift from 0 to 360° . Thus when $\delta > 270$, this corresponds to the case where the angles differ by more than 180° . Thus the correct angle offset δ is calculated even when the angles differ by more than 180° .)

Regarding claims 5, 12, 19, and 26, Ishii in view of Sugiyama teach all the limitations of claims 1, 8, 15, and 22 respectively. Further Ishii discloses a system as recited in claim 1 wherein said angle determination circuitry causes said offset angle to equal said second angle when fewer than 180° separate said first and second angles (Ishii discloses that the angle calculator unit outputs the phase offset δ_0 as shown in Figure 5a when the two signals 21 and 22 are less than 180° apart in Figure 5a (column 10, lines 34-37).).

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6. Claims 3,10, 17, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6597725 to Ishii in view of U.S. Patent No. 5251020 to Sugiyama further in view of U.S. Patent No. 5790594 to Peng.

Regarding claims 3,10, 17, and 24, Ishii in view of Sugiyama teaches all the limitations of claims 1, 8, 15, and 22 respectively. However Ishii in view of Sugiyama does not disclose a system and method wherein said signal conforms to International Telecommunications Union Recommendation V.34.

Peng discloses a system and method as recited in claim 1 wherein said signal conforms to International Telecommunications Union Recommendation V.34 (column 2, lines 41-45).

Ishii in view of Sugiyama and Peng are combinable because they are in the similar problem area of data communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the signal recommended by International Telecommunications Union Recommendation V.34 with the system of Ishii in view of Sugiyama to accommodate for phase errors in input signals.

The motivation to combine the reference is clear because International Telecommunications Union Recommendation V.34 signals are taught by Peng to be of high quality for modem communication (column 1, lines 29-33).

7. Claims 6, 7, 13, 14, 20, 21, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6597725 to Ishii in view of

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U.S. Patent No. 5251020 to Sugiyama further in view of U.S. Patent 6426946 to Takagi et al.

Regarding claims 6, 13, 20, and 27, Ishii in view of Sugiyama teaches all the limitations of claims 1, 8, 15, and 22 respectively. However Ishii in view of Sugiyama does not disclose a system as recited in claim 1 wherein said signal is an S signal.

Takagi et al disclose a system as recited in claim 1 wherein said signal is an S signal (column 8, lines 27-30).

Ishii in view of Sugiyama and Takagi et al are combinable because they are in the similar problem area of data communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the training signals of Takagi et al (column 8, lines 27-30) in the system of Ishii in view of Sugiyama to provide for training signal for the receiver.

The motivation to combine the reference is clear because S signals are used in facsimile communication for training purpose as taught by Takagi et al (column 8, lines 27-30).

Regarding claims 7, 14, 21, and 28, Ishii in view of Sugiyama teaches all the limitations of claim 1, 8, 15, and 22 respectively. Further Takagi et al discloses a system as recited in claim 1 wherein said angle determination circuitry refines said offset angle based on a subsequent signal (Takagi et al shows that the "S" signal and subsequent signals are used for training and adjusting for the characteristics of the line (column 8, lines 27-34).).

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8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6597725 to Ishii in view of U.S. Patent No. 5251020 to Sugiyama further in view of U.S. Patent No. 5557644 to Kuwabara.

Regarding claim 29, Ishii in view of Sugiyama teaches all the limitations of claim 22. However Ishii in view of Sugiyama does not disclose an apparatus as recited in claim 22 wherein the angle determination circuitry updates an equalizer in the signal receiver as a function of the determined offset angle.

Kuwabara discloses an apparatus as recited in claim 22 wherein the angle determination circuitry updates an equalizer in the signal receiver as a function of the determined offset angle (column 4, lines 34-41).

Ishii in view of Sugiyama and Kuwabara are combinable because they are in the similar problem area of data communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the equalizer updating section of Kuwabara with the system of Ishii in view of Sugiyama to implement a facsimile receiver system with high quality reception capability.

The motivation to combine the reference is clear because it is necessary to update the equalizer with correction result as shown by Kuwabara so that subsequent facsimile reception can be done at higher quality.

9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6597725 to Ishii to in view of U.S. Patent No. 5251020 to Sugiyama further in view of U.S. Patent No. 5175746 to Inoue et al.

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Regarding claim 30, Ishii in view of Sugiyama teaches all the limitations of claim 22. However Ishii in view of Sugiyama does not disclose an apparatus as recited in claim 22 wherein the angle determination circuitry updates an equalizer applied to incoming data signals based upon the offset angle between the incoming data signals and a set of training signals.

Inoue et al disclose an apparatus as recited in claim 22 wherein the angle determination circuitry updates an equalizer applied to incoming data signals based upon the offset angle between the incoming data signals and a set of training signals (column 12, lines 22-30).

Ishii in view of Sugiyama and Inoue et al are combinable because they are in the similar problem area of data communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the apparatus of Inoue et al that performs equalizer processing using input and training data (column 12, lines 22-30) with the system of Ishii in view of Sugiyama to implement a facsimile receiver system with high quality reception capability.

The motivation to combine the reference is clear because error in the input can be reduced as a result of apparatus disclosed by Inoue et al (column 3, lines 45-50).

Other Prior Art Cited

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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U.S. Patent No. 5727083 to Kelly et al disclose facsimile error correction method.

U.S. Patent No. 5369500 to Jacobs disclose an apparatus for evaluating the quality of facsimile signals.

U.S. Patent No. 4538111 to Giusto disclose an apparatus that is used in recovering of phase-modulated signals.

U.S. Patent No. 6307881 to Noma et al disclose a modem controller method.

U.S. Patent No. 5870438 to Olafsson disclose a system for high-speed data transmission.

U.S. Patent No. 6438186 to Strait disclose a method used for symbol timing.

U.S. Patent No. 6490010 to Shibuya et al disclose an apparatus for carrier recovery.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (703) 306-3441. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (703) 305-4863.

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

Patent Examiner

Beniyam Menberu

BM

10/18/2004

KAWilliams
KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER